

Remarks

In the present response claims 21, 27, 29, 31, and 36 are amended. Claims 21-38 remain pending in the application.

In the Office Action of December 2, 2005 claims 27 and 31 were rejected under 35 USC §112, second paragraph, as being indefinite for failing to provide antecedent basis for the term "microbial culture". The term "microbial culture" has been deleted from claims 27 and 31, therefore, the rejection is overcome.

In the Office Action of December 2, 2005 claims 21-38 were rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over 1) U.S. Patent No. 6,776,910 (the '910 patent); 2) U.S. Patent No. 6,808,632 (the '632 patent); 3) U.S. Patent No. 6,503,395 (the '395 patent); and 4) U.S. Patent No. 6,796,741 (the '741 patent). Applicants respectfully traverse the rejections. All the claims of these patents, except claim 15 of the '741 patent, provide a method for in-situ remediation of an aquifer comprising at least the following two steps: 1) delivering a microbial culture to a treatment zone; and 2) injecting an oxygen containing gas. Claim 15 of the '741 patent is directed to an apparatus for delivering fluid underground, and is unrelated to the method claimed in the present application.

Claims 21-38 of the present application provide a method for in-situ remediation of an aquifer in which an oxygen-containing gas is injected into the aquifer by at least two conduits. Claims 21-38 of the present application are not obvious from the claims of the '910 patent, the '632 patent, the '395 patent, or the '741 patent because the claims of these patents (except claim 15 of the '741 patent) require the delivery of a microbial culture to a treatment zone of an aquifer in combination with injection of an oxygen containing gas to treat the aquifer, while the claims of the present application do not require delivery of a microbial culture to treat the aquifer.

As noted in the application text on page 4, air sparging is believed to be ineffective for remediation of an aquifer because air sparging in accordance with the art volatilizes the chemicals to be biodegraded due to the low concentrations of indigenous organisms capable of biodegrading these compounds. However, as stated on page 10 lines 13-18 of the application text, it has been discovered that remediation can be achieved with great success by delivering oxygen intermittently to maximize aerobic

biodegradation without causing significant losses from other non-degrading mechanisms (e.g. volatilization, dispersion etc.). The volume (claim 21), frequency (claim 29), or the volume and frequency (claim 36) of the injection of the oxygen containing gas are selected according to specified parameters to provide such delivery.

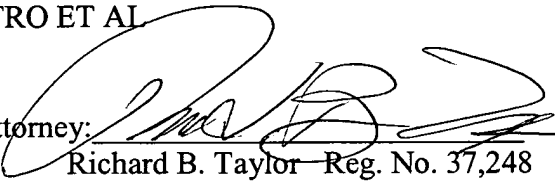
Therefore, because microbial delivery is not required in the claims of the present invention, the claims are not-obvious from the claims of the '910 patent, the '632 patent, the '395 patent, or the '741 patent.

In light of the above, Applicants respectfully request allowance of the pending claims.

Respectfully submitted

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